Building the New Reclaimed Water WAC
Proposed Draft Rule Language - work in progress (WIP)
for Rule Advisory Committee Use Only – July 22, 2009

Comments from DOH – DEL,CRR 7/24/09

PART VI Use-Based Requirements
(version 1.1 – RAC discussion draft 7-22-2009)

Intent of Part VI

1. Identify the applicability of class-based requirements to different categories of reclaimed water use. Categories include:
   - Commercial and industrial uses
   - Irrigation (land application) uses
   - Impoundments
   - Wetlands
   - Surface water augmentation
   - Ground water recharge

2. Specify the special requirements (additional standards and best management practices) that apply to each category (and applicable subcategories) of use.

Proposed Sections: (section numbers may change)

173-219- 500 Commercial and industrial uses. (discuss 7-22-2009 – pages 1-7)
173-219- 530 Land application (irrigation) uses.(discuss 7-22-2009 – pages 8-13)
173-219-560 Impoundments. (discuss 7-22-2009 – pages 14-15)
173-219- 600 Wetlands. (future meeting)
173-219- 700 Streamflow augmentation.(future meeting)
173-219- 800 Ground water recharge (introduce 7-22-2009 – separate handout).

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PART VI Use-Based Requirements

Commercial and Industrial Uses *(version 1.1 – RAC discussion draft 7-22-2009)*

WAC 173-219-500 Reclaimed Water for Commercial and Industrial Uses

1. **Applicability.** This section applies only to reclaimed water used as a source of supply for commercial and industrial ~~non-irrigation~~ purposes that do not ~~otherwise~~ require potable water.

2. **Minimum Class Requirements.**

   a. Class A Uses. Nonpotable water uses that have unrestricted human contact or a similar high potential for public exposure require a minimum of Class A quality water as defined in Part IV of these rules. Allowable~~ed~~ uses include:

      i. Urban water features such as decorative fountains.

      ii. Spray washing to clean streets.

      iii. Fire protection in hydrants and in sprinkler systems serving commercial or industrial facilities or buildings, hotels, motels or in residential buildings where consistent with ~~federal and~~ state plumbing codes.

      iv. Flush toilets and urinals in commercial or industrial facilities or buildings, hotels, and motels or in residential buildings where consistent with ~~federal and~~ state plumbing codes.

      v. Industrial cooling purposes where aerosols or other mist are created.

      vi. Industrial processes with exposure of workers.

      vii. Washing yards, lots, and sidewalks on corporate grounds.

      viii. Class B uses noted in this section.

      ~~viii.~~ix. Similar uses when approved by the lead agency.

   b. Class B Uses. Nonpotable water uses that have restricted human contact or similar reduced potential for public exposure require a minimum of Class B quality water as defined in Part IV of these rules. Allowable ~~-~~uses include:

      i. Street and parking lot sweeping by machine, where there is no run-off.~~dampening brushes and street surfaces.~~

      ii. Dust control by tanker truck, with no run-off.~~dampening unpaved roads and other surfaces.~~

Comment [CLR1]: How does irrigation tie to commercial / industrial use?

Comment [DEL2]: While Craig asked, on behalf of the RAC, for language to address residential fire sprinkler use of RW, he/we are not in favor of it, due to high risk of cross-connection to potable supply.

Comment [CLR3]: Oregon is the only state I can find that even mentions this; I personally don't like the concept due to cross connection issues.

Comment [CLR4]: There are no federal plumbing codes. There are nationally accepted codes, but nothing adopted by the Federal Govt.

Comment [CLR5]: Cross connection will prohibit this except for buildings with individual sources.

Comment [CLR6]: Ibid

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iii. Dampening soil for compaction (construction sites, landfills, etc.)

iv. Fire fighting by dumping from aircraft.

v. Ship ballast water.

vi. Washing aggregate and making concrete.

vii. Industrial processes without exposure to workers.

viii. Similar uses when approved by the lead agency.

c. Exceptions to class-based requirements

i. When under the direct control of responsible maintenance personnel, reclaimed water not meeting the Class B disinfection microbial quality (??) may be used:

(1) Within the bounds of the ~~wastewater~~ treatment facility for treatment plant purposes, wash down water, yard hydrants, and restricted site irrigation.

(2) At restricted locations within the sanitary sewer collection system for flushing of the sanitary sewers and pump station maintenance.

~~iii. All other exceptions require case-by-case consideration and written approval from the lead agency.~~

~~iii.~~ii. *Before allowing an exception, t*he lead agency must determine that the proposed requirements are adequate to protect public health and the environment. ~~and~~ The lead agency shall approve any ~~such~~ exceptions in writing. ~~At a minimum, the~~The lead agency ~~must~~ will *consider the ~~following:~~request as noted in Criteria for Reclaimed Water Works Design.*

~~*Potential for human contact with the reclaimed water.*~~

~~*Reliability features.*~~

~~*Hours of use including peak time of use and flexibility in hours of use.*~~

~~*Size of the distribution system, storage and pumping facilities.*~~

~~*Potential for cross connections including whether or not there are retrofits of existing potable systems.*~~

~~*Potential for improper use of the reclaimed water.*~~

~~*Ability of customers to provide additional treatment or other controls on-site.*~~

~~*Whether essential services such as fire flows are provided by the reclaimed water.*~~

~~*Compliance history of the facility.*~~

~~*Other case specific factors.*~~

Comment [CLR7]: ??? Is disinfection the only treatment / water quality issue of concern here or does this refer to all of the requirements for Class B [which is primarily disinfection].

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Comment [DEL8]: Covered in the item below.

Comment [DEL9]: These 10 items are direction to the departments and information for the RW facility. Seems very appropriate to be in guidance.

Comment [DEL10]: I don't know what this means. New assemblies placed in potable system??

3. **Additional water quality requirements.**

~~b.~~a. Reclaimed water provided for commercial and industrial uses must be ~~suitable~~ compatible with~~for~~ water quality limits of the specific beneficial use(s) proposed. ~~The reclaimed water quality should be within the typical range established by standard engineering practices.~~

b. The lead agency may establish additional water quality or monitoring requirements as appropriate for a specific commercial or industrial use.

~~c. *(Note - The TAP recommended Table 19-4 from Asano, 2008 (pages 1111 and 1112) appended as proposed guidance in the Criteria for Reclaimed Water Works Design).*~~

~~d.~~c. ~~The lead agency may require additional treatment and disinfection of reclaimed water before allowing certain uses (such as in swimming pools, hospitals, around potable water pipelines, food production facilities) when the lead agency determines there is a significant potential for prolonged contact or exposure to sensitive subgroups of the population.~~

4. **Other requirements for commercial and industrial use.**

~~b.Reclaimed water used for commercial and industrial uses shall meet the minimum requirements established under Part IV and V of this regulation.~~

~~b.~~a. The lead agency may establish additional best management practices for all commercial and industrial uses, a specific type of use or on a case-by-case basis including, but not limited to:

i. Blending with other water sources.

ii. Dual distribution systems.

iii. Metering.

iv. Confining water ~~within the distribution system and~~ to the use site or assure discharge to a permitted wastewater collection and treatment facility.~~of use~~.

~~c.~~b. Engineering reports submitted under Part II of these rules that propose commercial or industrial uses of reclaimed water must also address:

i. ~~Typical~~ water quality ~~concerns~~ parameters ~~applicable to the uses~~ such as control of corrosion, scaling and deposition, temperature, biological fouling, odors, color, foaming, ~~and the~~that could potentially ~~for~~ interference with industrial processes or require additional on-site treatment.

~~ii. Critical water quality parameters for the use identified in the Criteria for Reclaimed Water Works Design, standard engineering references, industry or manfacturer references, or specifically identified by the user.~~

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Comment [CLR11]: This is getting to "designer water" and that CANNOT be a regulatory requirements. This is saying that cooling water for Microsoft! in Quincy must be provided with RO quality because of their specific needs, but Yahoo! does not because they chose a different scale management approach..

Comment [CLR12]: Guidance but not in rule

Comment [CLR13]: How is this going to be done? And goes to Comment 10 and common practice today. Pools, hospitals, food processors provide the additional treatment they need for the use. The water supplier is not responsible and practically could not be responsible without satellite treatment plants. Jetting to compact pipeline construction is not practiced any longer and should be struck.

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Comment [DEL14]: Covered in "a" and "b" above.

Comment [CLR15]: What does this mean? Keep the water inside the pipe?

Comment [DEL16]: I think all of 4b belongs in Part II, so the engineer gets a complete idea of what must be in the report.

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Comment [CLR17]: This is the responsibility of the customer taking the water for C/I uses and not the reclamation facility. Like (3) above, this will required RW producers to provide and maintain individual satellite treatment plants for each industry that wants a different water quality – toilet flushing vs. single pass cooling vs. multi-pass cooling vs. chip or wafer manufacturing or biotech plants. With potable water, specific water quality requirements are the responsibility of the customer – and since each industry or user is in almost all cases the only one that knows what their specific needs are, it needs to stay this way.

~~iii.~~ii. The specific responsibilities of the reclaimed water generator, distributor and user regarding any restrictions on the water quality and requirements for additional treatment. These responsibilities must be included ~~within~~ in all agreements with the user.

~~iv.~~iii. The best management practices identified in section 500(4)~~under this section~~.

~~d.~~c. The ~~lead agency~~ permit may specify additional requirements deemed necessary to meet state and federal regulatory requirements for water quality and public health protection.

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End rule content for commercial and industrial uses

Note: Guidance Tables follow: there are others, like NALCO that are specific to industrial or high purity water production.

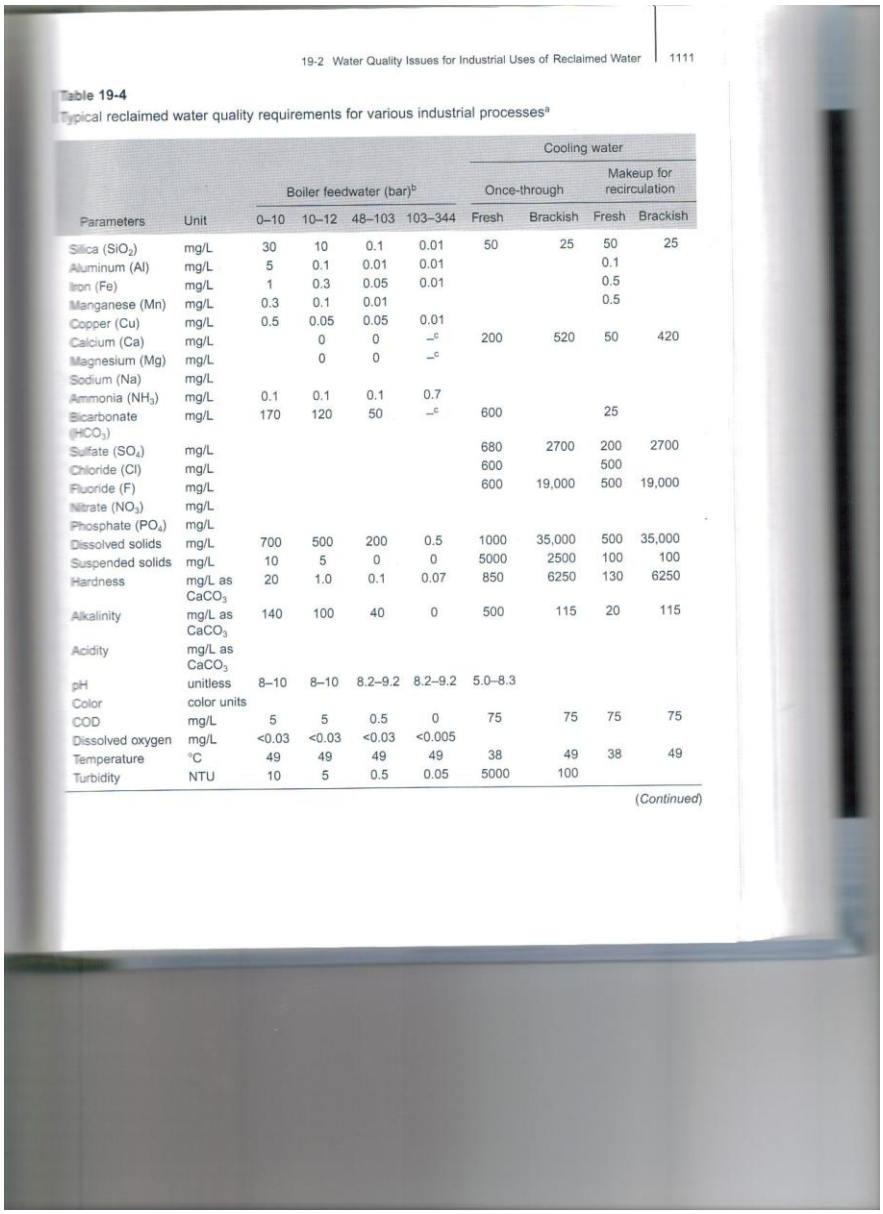

Table 19-4
Typical reclaimed water quality requirements for various industrial processes[a]

						Cooling water			
		Boiler feedwater (bar)[b]				Once-through		Makeup for recirculation	
Parameters	Unit	0–10	10–12	48–103	103–344	Fresh	Brackish	Fresh	Brackish
Silica (SiO_2)	mg/L	30	10	0.1	0.01	50	25	50	25
Aluminum (Al)	mg/L	5	0.1	0.01	0.01			0.1	
Iron (Fe)	mg/L	1	0.3	0.05	0.01			0.5	
Manganese (Mn)	mg/L	0.3	0.1	0.01				0.5	
Copper (Cu)	mg/L	0.5	0.05	0.05	0.01				
Calcium (Ca)	mg/L		0	0	–[c]	200	520	50	420
Magnesium (Mg)	mg/L		0	0	–[c]				
Sodium (Na)	mg/L								
Ammonia (NH_3)	mg/L	0.1	0.1	0.1	0.7				
Bicarbonate (HCO_3)	mg/L	170	120	50	–[c]	600		25	
Sulfate (SO_4)	mg/L					680	2700	200	2700
Chloride (Cl)	mg/L					600		500	
Fluoride (F)	mg/L					600	19,000	500	19,000
Nitrate (NO_3)	mg/L								
Phosphate (PO_4)	mg/L								
Dissolved solids	mg/L	700	500	200	0.5	1000	35,000	500	35,000
Suspended solids	mg/L	10	5	0	0	5000	2500	100	100
Hardness	mg/L as $CaCO_3$	20	1.0	0.1	0.07	850	6250	130	6250
Alkalinity	mg/L as $CaCO_3$	140	100	40	0	500	115	20	115
Acidity	mg/L as $CaCO_3$								
pH	unitless	8–10	8–10	8.2–9.2	8.2–9.2	5.0–8.3			
Color	color units								
COD	mg/L	5	5	0.5	0	75	75	75	75
Dissolved oxygen	mg/L	<0.03	<0.03	<0.03	<0.005				
Temperature	°C	49	49	49	49	38	49	38	49
Turbidity	NTU	10	5	0.5	0.05	5000	100		

(*Continued*)

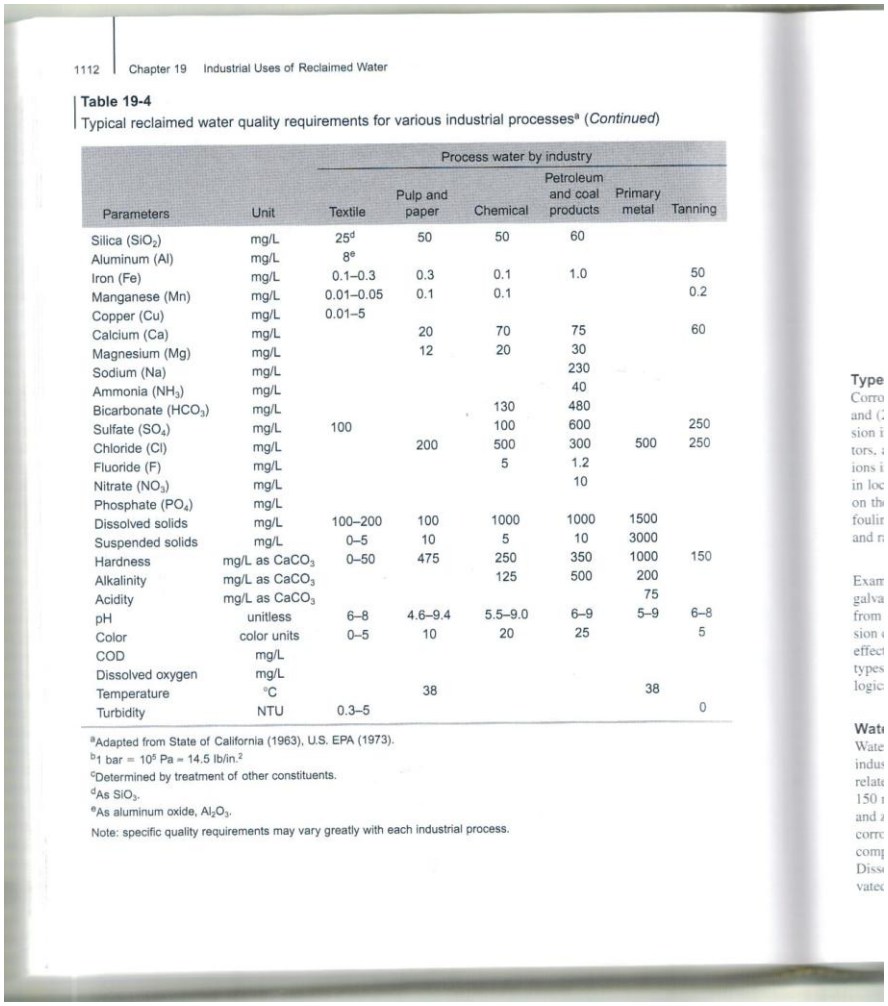

Table 19-4
Typical reclaimed water quality requirements for various industrial processes[a] (*Continued*)

		Process water by industry					
Parameters	Unit	Textile	Pulp and paper	Chemical	Petroleum and coal products	Primary metal	Tanning
Silica (SiO_2)	mg/L	25[d]	50	50	60		
Aluminum (Al)	mg/L	8[e]					
Iron (Fe)	mg/L	0.1–0.3	0.3	0.1	1.0		50
Manganese (Mn)	mg/L	0.01–0.05	0.1	0.1			0.2
Copper (Cu)	mg/L	0.01–5					
Calcium (Ca)	mg/L		20	70	75		60
Magnesium (Mg)	mg/L		12	20	30		
Sodium (Na)	mg/L				230		
Ammonia (NH_3)	mg/L				40		
Bicarbonate (HCO_3)	mg/L			130	480		
Sulfate (SO_4)	mg/L	100		100	600		250
Chloride (Cl)	mg/L		200	500	300	500	250
Fluoride (F)	mg/L			5	1.2		
Nitrate (NO_3)	mg/L				10		
Phosphate (PO_4)	mg/L						
Dissolved solids	mg/L	100–200	100	1000	1000	1500	
Suspended solids	mg/L	0–5	10	5	10	3000	
Hardness	mg/L as $CaCO_3$	0–50	475	250	350	1000	150
Alkalinity	mg/L as $CaCO_3$			125	500	200	
Acidity	mg/L as $CaCO_3$					75	
pH	unitless	6–8	4.6–9.4	5.5–9.0	6–9	5–9	6–8
Color	color units	0–5	10	20	25		5
COD	mg/L						
Dissolved oxygen	mg/L						
Temperature	°C		38			38	
Turbidity	NTU	0.3–5					0

[a]Adapted from State of California (1963), U.S. EPA (1973).
[b]1 bar = 10^5 Pa = 14.5 lb/in.^{2}
[c]Determined by treatment of other constituents.
[d]As SiO_3.
[e]As aluminum oxide, Al_2O_3.
Note: specific quality requirements may vary greatly with each industrial process.

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PART VI Use-Based Requirements
Irrigation Uses *(version 1.1 – RAC discussion draft 7-22-2009)*

WAC 173-219-530 Land Application (Irrigation) Uses

1. **Applicability.**
   a. This section applies to the non-potable use of reclaimed water for agricultural food and non-food crop irrigation and the watering of landscape features such as lawns, golf courses, and highway medians.
   b. The discharge of wastewater effluent to a site that uses the pollutant uptake capacity of non-food crops for treatment purposes on land owned or under the long term control of the wastewater plant permittee is not subject to the requirements of ~~these rules~~chapter 173-219 WAC. ~~The discharge site must be on land owned or under the long term control of the Permittee.~~ Th~~is~~e discharge is regulated under ~~the state waste discharge permits requirements of~~ Chapter 173-216 WAC and Chapter 246-271 WAC.
2. **Minimum Class Requirements.**
   a. Class A Uses. Nonpotable water uses that have unrestricted human contact or similar high potential for public exposure require a minimum of Class A quality water as defined in Part IV of these rules. Allowed uses include:
      i. Food crop irrigation uses except as otherwise addressed~~uthorized~~ within this section.
      ii. Irrigation of public landscape areas including parks, golf courses, and playgrounds.
      iii. Irrigation of residential landscapes.
      iv. Frost protection on orchard crops.
      v. Class B uses noted in this section.
      ~~iv.~~vi. Similar uses when approved by the lead agency.

   ~~c.~~d. Class B Uses. Nonpotable water uses that have restricted human contact or similar reduced potential for public exposure require a minimum of Class B quality water as defined in Part IV of these rules. . Allowed uses include:
      i. Freeway landscapes, cemeteries.
      ii. Agricultural irrigation of non-food crops.

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iii. Pasture ~~with access to~~that milking animals can access.

iv. Frost protection of orchard crops when crops are not harvested for XXX days. (Note: DOH and DOA to check on this category)

v. Similar uses when approved by the lead agency.

Comment [DEL18]: We've contacted our food people; no suggestions. They agreed to talk to their AG counterparts.

~~f.~~**e.** Exceptions to class-based requirements.

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i. The lead agency may authorize use of reclaimed water for agricultural use at disinfection requirements less stringent than Class B limits but not less than 240/100ml total coliform provided the site has restricted access and one of the following applies:

(1). Surface irrigation of orchards and vineyards provided the fruit is not harvested if it contacts either the irrigation water or the ground.

(2). Spray or surface irrigation of non-food crop trees, fodder, fiber and seed crops provided pasture is not used for milking animals.

(3). Spray or surface irrigation of restricted access food crops provided the food crops undergo physical or chemical processing sufficient to destroy all pathogenic agents prior to distribution or sale and the use.

ii. ~~The lead agency may consider other exceptions to these class requirements on a case-by-case basis. The lead agency must approve any such exceptions in writing.~~

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~~(22).~~*Before allowing an exception, t*he lead agency must determine that the proposaled ~~requirements are~~ is adequate to protect public health and the environment. The lead agency shall ~~and must~~ approve any ~~such~~ exceptions in writing. ~~At a minimum, t~~The lead agency ~~must~~ will *consider the request as noted in the Criteria for Reclaimed Water Works Design.* ~~*following:*~~

~~(22).*Potential for human contact with the reclaimed water.*~~

~~(22).*Reliability features.*~~

~~(22).*Type of irrigation system (spray, surface, drip).*~~

~~(22).*Type of crop irrigated.*~~

~~(22).*Type of soils and distance to ground water.*~~

~~(22).*Hours of use including peak time of use and flexibility in hours of use.*~~

~~(22).*Size of the distribution system, storage and pumping facilities.*~~

Comment [DEL19]: Why does this matter?

~~(22).*Potential for cross connections including whether or not there are retrofits of existing potable systems.*~~

Comment [DEL20]: Still a question.

~~(22). Potential for improper use of the reclaimed water.~~

~~(22).Ability of customers to provide additional treatment or other controls on-site.~~

~~(22).Compliance history of the facility.~~

~~(22).~~(1). ~~Other case specific factors.~~

3. Additional water quality requirements.

a. Reclaimed water provided for irrigation/land application uses must be suitable for the specific uses proposed. Reclaimed water quality should be within the typical range established by standard agricultural practices and should not exceed the limits established for plant tolerance and protection of soils ~~and ground water~~ beneath the application site.

Comment [CLR21]: The agronomic rate design assures water is held in the root zone, therefore no impact on the ground water.

b. The lead agency must consider the following limits in permits for irrigation uses: (TAP recommendations)

i. Total dissolved solids < 1500 mg/L (or SAR or other good measure TBD – research in progress – what other states are doing)

ii. pH between 6-9 standard units.

iii. Free chlorine residual less than 1 mg/L at the point of use.

c. The lead agency ~~should~~ may establish other water quality requirements necessary to -provide reclaimed water commonly suitable for the planned irrigation uses.

Note: The TAP suggested (salts, organics, solids, metals, ~~emerging contaminants,~~ alkalinity, temperature, macro and micronutrients and nutrients at the right time).

Asano, 2007, recommends monthly monitoring for TSS, BOD, ph, TDS, Electrical conductivity, N and P, Major solutes (Ca, Mg, K, carbonates, sulfates) and exchangeable cations (Na, Ca, Mg, K, Al) – annual monitoring for trace elements, metals.. Monthly volume measurement (metering) Weekly monitoring for coliform for Class B uses.

Comment [CLR22]: The RW utility *may* want to monitor these parameters as a courtesy to their customer or recoup costs from their customers, but these are parameters that the irrigation operator needs to know to successfully manage the crop. WQ needs could change depending on the crop and crop rotations chose n by the irrigator/farmer.

4. Other requirements for irrigation use.

~~b. Reclaimed water shall meet the minimum requirements established under Parts IV and V of this regulation.~~

b.~~a.~~ Application of reclaimed water to the use area shall be at ~~reasonable~~ agronomic rates and shall consider soil, climate, and nutrient demand. Determination of irrigation requirements shall be consistent with the Washington Irrigation Guide, latest edition.

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Comment [DEL23]: Include in the class A and B sections at the start.

Comment [CLR24]: What are "reasonable" agronomic rates? It is crop, soil and nutrient dependent.

~~c.~~b. Application timing and rates shall ensure that a nuisance is not created. Runoff, ponding and overspray shall be avoided. There shall be no application of reclaimed water for irrigation purposes when the ground is saturated or frozen.

~~e.The seasonal nutritive loading of the use area including the nutritive value of organic and chemical fertilizers and of the reclaimed water, shall not exceed the nutritive demand of the landscape.~~

~~e.~~c. ~~Degradation~~ Retention of reclaimed water in plant root zone to prevent discharge to groundwater, considering water holding capacity of the soil, climate, and ~~nutrient demand~~plant water uptake requirements, ~~shall be minimized~~.

~~f.~~d. Use areas that are spray~~-~~-irrigated or that allow public access shall be irrigated during periods of minimal use (e.g., between 9 p.m. and 6 a.m.). Consideration shall be given to allow maximum drying time prior to subsequent public use.

~~g.~~e. Irrigation systems should not be installed near food establishments, picnic tables or drinking fountains.

~~g.~~f. Where hose connections are required, hose bibs shall be replaced with quick couplers and other fittings that prevent interconnection between potable and nonpotable systems.

~~i.~~*g.* The lead agency may establish additional best management practices for all irrigation uses, a specific type of use or on a case-by-case basis including, but not limited to:

v. Worker ~~safety~~exposure

vi. Blending with other water sources.

vii. Dual distribution systems.

viii. Metering.

~~j. Confining water within the distribution system and to the site of use.~~

~~j.~~

~~j.~~h. Engineering reports submitted under Part II of these rules that propose irrigation uses of reclaimed water shall also address:

i. How agronomic rates will be determined, managed and monitored for each site to estimate demand~~. Include rainfall, temperature, crop type, stage of plant growth, method of irrigation, nutrient requirements, evapotransporation and leaching of salts in determining hydraulic loadings and the limiting parameter.~~

~~i.~~ii. The calculated loading rate(s) and the parameters and methods used to determine the loading rate(s) ~~shall be submitted to the lead agency approval~~.

~~ii.~~iii. The responsibilities of the water generator, distributor and the user for control of water quality issues including irrigation schedules and worker safety, application methods, rates and practices, plant tolerance, salt build-up in the soil, agronomic uptake of metals, micro and macro nutrients, and groundwater protection.

~~ii.~~iv. The ~~specific~~ responsibilities of the reclaimed water generator, distributor and user regarding any restrictions on the water quality and requirements for

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Comment [CLR25]: CA Association of Water Agencies, CA Association of Sanitation Agencies and WateReuse CA recommends striking this language.

Comment [DEL26]: We should be careful not to represent that we regulate worker safety. That's L&I.

Comment [CLR27]: See before – what does this mean?

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Comment [DEL28]: Pls move this section to Part II, w/engrg report reqmts.

Comment [DEL29]: Guidance: Purple Book

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additional treatment. These responsibilities must be included w~~ith~~in all agreements with the user.

~~iv.~~v. The best management practices identified under ~~this~~ section 530(4).

k. The ~~lead agency~~ permit may specify additional requirements deemed necessary to meet state and federal regulatory requirements for environmental and public health protection.

End of rule language for irrigation uses.

TAP SUGGESTIONS

***Note**: The TAP identified the following references to support rule and guidance:*

a. Table 2.7 –USEPA Guidelines for Water Reuse, page 25, table 2-7 recommended limits for constituents in reclaimed water for irrigation.
b. FAO Paper 29 Table 1 Guidelines for food crops
c. Table 17.5 Metcalf and Eddy, Water Reuse (Asano, 2007)
d. Table 17-27, page 1015, Typical minimum monitoring requirements.
e. Ecology CSWD
f. Irrigation Manuals (WSU, NRCS)
g. Department of Agriculture
h. Golf Course Association,
i. CA general permit requirements for landscape irrigation

Notes from RAC and TAP comments:

1 Make sure guidance documents do not conflict with each other (Food and
2 Agriculture Organization (FAO) table 29 & Environmental Protection Agency
3 (EPA) table 27).
4 Salinity limit should copy standards from FAO or Takashi Asano.
5 Limit chlorine to less than or equal to 1 mg/L of total chlorine to protect plants.
6 Nitrogen concentrations should be greater than or equal to 10 mg/L unless
7 Ecology approves a variation.
8 Stock water standards should be based on the Department of Agriculture
9 requirements.

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Comment [DEL30]: Stock watering wasn't addressed or mentioned in this section. Should it be?
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10 Algal growth was determined to be a management issue. The quality of the water

11 will depend on the customer or application you have for the use of the water.

12 Guidance is needed so users know if they need additional treatment to ensure against litigation protection.

13 Frost control.

2007 M&E – Chapter 18 - Table 18-2 - ***Guidance***

Typical design considerations for urban landscape irrigation

- *Plant selection (salt tolerance, boron tolerance, water needs)*
- *Irrigation method (required pressure, efficiency, exposure control)*
- *Leaching requirements*
- *Application rates*
- *O&M – irrigation timing, area restrictions, soil conditioning, sprinkler and emitter clogging control, monitoring.*
- *Distribution and storage – flow rate, pumping, peaking factors, storage, blending multipurpose use water, cross connection control – spacing ,pressure differences, backflow prevention, color coding, etc.*

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PART VI Use-Based Requirements

Impoundments *(version 1.1 – RAC discussion draft 7-22-2009)*

WAC 173-219-560 Impoundments

Comment [DEL31]: Where would a sprinkler fountain or splash pad fit in one of these sections?? Are they public water features (with public exposure)?

a. **Applicability.** This section applies to the non-potable use of reclaimed water for landscape impoundments such as ponds and golf course water hazards and public water features such as fish ponds, man-made recreational "lakes", and constructed "wetlands".

b. **Special Use Advisory.** Reclaimed water shall not be used as a source of supply for swimming pools unless specifically authorized by ~~Health and Ecology~~the departments under a reclaimed water permit. The agencies will also consult local health jurisdiction regulators.

c. **Minimum Class Requirements.**

i. Class A Uses. ~~Reclaimed water~~Nonpotable water use~~d in recreational impoundments~~ with unrestricted public contact or a similar high potential for public exposure ~~shall, at a minimum, meet~~require a minimum of ~~the~~ Class A ~~requirements~~quality water as defined in Part IV of these rules. ~~Such~~ Allowable uses include~~, but are not limited to~~ recreational lakes and public water features, fishponds and constructed treatment wetlands.[1]

ii. Class B Uses. Nonpotable~~Reclaimed~~ water use~~d~~ that have restricted human contact or similar reduced potential for public exposure require a minimum of ~~in recreational or landscape impoundments with restricted public contact or similar potential for public exposure shall, at a minimum, meet the~~ Class B quality water as defined in Part IV of these rules~~requirements~~. ~~Such~~ Allowable uses include golf course water ponds/hazards, landscape ponds and vegetative landscape (lily) ponds, fishing and boating impoundments, constructed treatment wetlands, and other impoundments with non-body contact uses~~, including constructed treatment wetlands.~~

iii. Exceptions.

[1] RCW 90.46.XXX until new rule adopted and 1997 WRR Standards Article 2, Section 4 state that constructed treatment wetlands shall meet Class A or Class B.

(1).*Reclaimed water that does not meet Class B reclaimed water standards may be discharged into constructed treatment wetlands provided a lesser standard is specifically authorized by ~~Health and Ecology~~ the lead agency and the project includes a comprehensive monitoring plan to evaluate the effectiveness of the project and the degree of water quality improvement provided by the wetland.*

(2).The ~~departments~~ lead agency may consider other exceptions to these class requirements on a case-by-case basis. The ~~departments~~ lead agency must approve any such exceptions in writing.

3. **Additional requirements.**

a. Phosphorus and Nitrogen. Reduction of phosphorus and/or nitrogen is recommended for reclaimed water used as a source of supply for recreational impoundments to minimize algal growths and maintain acceptable aesthetic conditions.

b. Groundwater Protection. Reclaimed water impoundments and storage ponds shall not result in contamination of groundwater that is used as, or suitable to be used as, a source of water supply for domestic purposes. Reclaimed water impoundments and storage ponds that are not lined or sealed to prevent seepage are acceptable if it is demonstrated to the satisfaction of the ~~Washington Departments of Health and Ecology~~departments that such contamination will not occur.

Comment [DEL32]: While we usually use lead agency, for this and the swimming pool case, it seems appropriate to say "departments".

c. Surface Water Protection. Impoundments with an outlet flowing to surface waters must meet requirements for a surface water discharge under chapter 173-XXX WAC.